

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	32	sabatini NEAR david	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/04/15 16:51
L2	780812	array\$5 microarray\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/04/15 16:52
L3	968	(array\$5 microarray\$5) SAME eukaryotic	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/04/15 16:52
L4	489	((array\$5 microarray\$5) SAME eukaryotic WITH cell) and DNA) and (transduc\$4 OR transfect\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/04/15 16:52
L5	117	((((array\$5 microarray\$5) SAME eukaryotic WITH cell) and DNA) and (transduc\$4 OR transfect\$4)) and gelatin	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/04/15 16:52
L6	44	435/455.ccls. and (((array\$5 microarray\$5) SAME eukaryotic WITH cell) and DNA) and (transduc\$4 OR transfect\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/04/15 16:53

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(FILE 'HOME' ENTERED AT 16:55:29 ON 15 APR 2005)

FILE 'MEDLINE, CANCERLIT, CAPLUS, SCISEARCH' ENTERED AT 16:56:08 ON 15 APR 2005

L1 67103 S (EUKARYOTIC OR CELL) (L) (MICRO-ARRAY OR MICROARRAY OR ARRAY)
L2 2808 S L1 AND TRANSFECT?
L3 742 S L2 AND PY<=1999
L4 300 DUP REM L3 (442 DUPLICATES REMOVED)
L5 6 S L4 AND DENSITY
E SABATINI DAVID?/AU
L6 51 S E1
L7 10 S L6 AND L1
L8 7 DUP REM L7 (3 DUPLICATES REMOVED)
L9 7 SORT L8 PY

=> d an ti so au ab pi l9 1-7

L9 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:355606 CAPLUS

DN 136:49013

TI Microarrays of cells expressing defined cDNAs

SO Nature (London, United Kingdom) (2001), 411(6833), 107-110

CODEN: NATUAS; ISSN: 0028-0836

AU Zlauddin, Junald; Sabatini, David M.

AB Genome and expressed sequence tag projects are rapidly cataloging and cloning the genes of higher organisms, including humans. An emerging challenge is to rapidly uncover the functions of genes and to identify gene products with desired properties. We have developed a microarray-driven gene expression system for the functional anal. of many gene products in parallel. Mammalian cells are cultured on a glass slide printed in defined locations with different DNAs. Cells growing on the printed areas take up the DNA, creating spots of localized transfection within a lawn of non-transfected cells. By printing sets of complementary DNAs cloned in expression vectors, we make microarrays whose features are clusters of live cells that express a defined cDNA at each location. Here we demonstrate two uses for our approach: as an alternative to protein microarrays for the identification of drug targets, and as an expression cloning system for the discovery of gene products that alter cellular physiol. By screening transfected cell microarrays expressing 192 different cDNAs, we identified proteins involved in tyrosine kinase signalling, apoptosis and cell adhesion, and with distinct subcellular distributions.

L9 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:208439 CAPLUS

DN 134:247914

TI Reverse transfection method for constructing microarrays

suitable for rapid high throughput screening of gene function in mammalian cells

SO PCT Int. Appl., 43 pp.

CODEN: PIXXD2

IN Sabatini, David M.

AB Described herein is a strategy for the high throughput anal. of gene function in mammalian cells. A method to create transfected cell microarrays that are suitable for rapidly screening large sets of cDNAs or DNA constructs for those encoding desired products or for causing cellular phenotypes of interest is described. Using a slide printed with sets of cDNAs in expression vectors, a living microarray of cell clusters expressing the gene products has been generated. The cell clusters can be screened for any property detectable on a surface and the identity of the responsible cDNA(s) determined from the coordinates of the cell cluster with a phenotype of interest. Accordingly, the present invention relates to a method, referred to as a reverse transfection method, in which a defined nucleic acid (a nucleic acid of known sequence or source), also referred to as a nucleic acid of interest or a nucleic acid to be introduced into

cells, is introduced into cells in defined areas of a lawn of eukaryotic cells, in which it will be expressed or will itself have an effect on or interact with a cellular component or function. In the method, a mixture, defined below, comprising DNA of interest (such as cDNA or genomic DNA incorporated in an expression vector) and a carrier protein is deposited (e.g., spotted or placed in small defined areas) onto a surface (e.g., a slide or other flat surface, such as the bottoms of wells in a multi-welled plate) in defined, discrete (distinct) locations and allowed to dry, with the result that the DNA-containing mixture is affixed to the surface in defined discrete locations.

Eukaryotic cells, such as mammalian cells (e.g., human, monkey, canine, feline, bovine, or murine cells), bacterial, insect or plant cells, are plated (placed) onto the surface bearing the DNA-containing mixture in sufficient d. and under appropriate conditions for introduction/entry of the DNA into the eukaryotic cells and expression of the DNA or its interaction with cellular components. In one embodiment of the method, referred to as a "gelatin-DNA" embodiment, the DNA-containing mixture, referred to herein as a gelatin-DNA mixture, comprises DNA (e.g., DNA in an expression vector) and gelatin, which is present in an appropriate solvent, such as water or double deionized water. A second embodiment of the method is referred to as a "lipid-DNA" embodiment. In this embodiment, a DNA-containing mixture (referred to herein as a lipid-DNA mixture) which comprises DNA (e.g., DNA in an expression vector); a carrier protein (e.g., gelatin); a sugar, such as sucrose; a buffer that facilitates DNA condensation and an appropriate lipid-based transfection reagent is spotted onto a surface, such as a slide, thus producing a surface bearing the lipid-DNA mixture in defined locations. Also the subject of this invention are **arrays**, including **microarrays**, of defined DNAs spotted onto (affixed to) a surface and **array** : including **microarrays** of reverse transfected cells spotted to (affixed to) a surface by the method described herein.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001020015	A1	20010322	WO 2000-US25457	20000918
WO 2001020015	C2	20021003		
W: CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2383423	AA	20010322	CA 2000-2383423	20000918
EP 1218529	A1	20020703	EP 2000-963550	20000918
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
JP 2003509060	T2	20030311	JP 2001-523786	20000918
US 6544790	B1	20030408	US 2000-664297	20000918
US 2002006664	A1	20020117	US 2001-817003	20010322
CA 2440378	AA	20021003	CA 2002-2440378	20020322
WO 2002077264	A2	20021003	WO 2002-US9265	20020322
WO 2002077264	A3	20030220		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1379642	A2	20040114	EP 2002-725351	20020322
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004530426	T2	20041007	JP 2002-575306	20020322
US 2003228694	A1	20031211	US 2003-379130	20030304
US 2003203486	A1	20031030	US 2003-403720	20030328
US 2003228601	A1	20031211	US 2003-403630	20030328

L9 ANSWER 3 OF 7 MEDLINE on STN
AN 2003039648 MEDLINE
TI Applications of transfected cell microarrays in

high-throughput drug discovery.

SO Drug discovery today, (2002 Sep 15) 7 (18 Suppl) S113-8. Ref: 25
Journal code: 9604391. ISSN: 1359-6446.

AU Bailey Steve N; Wu Randy Z; Sabatini David M

AB DNA microarrays and, more recently, protein microarrays
, have become important tools for high-throughput genomic and proteomic
studies. Transfected cell microarrays are a
complementary technique in which array features comprise
clusters of cells overexpressing defined cDNAs. Complementary
DNAs cloned in expression vectors are printed on microscope slides, which
become living arrays after the addition of a lipid transfection
reagent and adherent mammalian cells. This article discusses
two potential uses of cell microarrays in drug
discovery: as a method of screening for gene products involved in
biological processes of pharmaceutical interest and as in situ protein
microarrays for the development and assessment of leads.

L9 ANSWER 4 OF 7 MEDLINE on STN

AN 2002681327 MEDLINE

TI Cell-biological applications of transfected-cell
microarrays.

SO Trends in cell biology, (2002 Oct) 12 (10) 485-8. Ref: 17
Journal code: 9200566. ISSN: 0962-8924.

AU Wu Randy Z; Bailey Steve N; Sabatini David M

AB Cell microarrays are a recent addition to the set of
tools available for functional genomic studies. Each cell
microarray is a slide with thousands of cell clusters
that are each transfected with a defined DNA, which directs either the
overproduction or the inhibition of a particular gene product. By using a
range of detection assays, the phenotypic consequences of perturbing each
gene in mammalian cells can be probed in a systematic,
high-throughput fashion. Combining well-established methods for cellular
investigation with the miniaturization and multiplexing capabilities of
microarrays, cell arrays are a versatile tool
that can be useful in many cell-biological applications.

L9 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:118509 CAPLUS

DN 138:133525

TI Small molecule microarrays

SO U.S. Pat. Appl. Publ., 24 pp.

CODEN: USXXCO

IN Sabatini, David M.; Stockwell, Brent R.

AB Small mol. arrays, particularly small mol. microarrays
, and methods of identifying a small mol. based on observing the effect of
a small mol. on an observable characteristic of a biol. sample or test
element, such as a cell, protein, cell lysate, tissue
slice or small organism.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003032203	A1	20030213	US 2002-189336	20020710
WO 2003056293	A2	20030710	WO 2002-US21972	20020710
WO 2003056293	A3	20031030	-	-

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF,
CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

L9 ANSWER 6 OF 7 MEDLINE on STN

AN 2004578697 MEDLINE

TI Microarrays of small molecules embedded in biodegradable
polymers for use in mammalian cell-based screens.

SO Proceedings of the National Academy of Sciences of the United States of
America, (2004 Nov 16) 101 (46) 16144-9. Electronic Publication:

2004-11-08.

Journal code: 7505876. ISSN: 0027-8424.

AU Bailey Steve N; Sabatini David M; Stockwell Brent R
AB We developed a **microarray**-based system for screening small molecules in mammalian cells. This system is compatible with image-based screens and requires fewer than 100 cells per compound. Each compound is impregnated in a 200-microm-diameter disc composed of biodegradable poly-(D), (L)-lactide/glycolide copolymer. Cells are seeded on top of these discs, and compounds slowly diffuse out, affecting proximal cells. In contrast with microtiter-based screening, this system does not involve the use of wells or walls between each compound-treated group of cells. We demonstrate detection of the effects of a single compound in a large **microarray**, that diverse compounds can be released in this format, and that extended release over several days is feasible. We performed a small synthetic lethal screen and identified a compound (macbecin II) that has reduced activity in cells with RNA interference-mediated decrease in the expression of tuberous sclerosis 2. Thus, we have developed a **microarray**-based screening system for testing the effects of small molecules on mammalian cells by using an imaging-based readout. This method will be useful to those performing small-molecule screens to discover new chemical tools and potential therapeutic agents.

L9 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:245290 CAPLUS

TI RNAi living-cell **microarrays** for loss-of-function screens in *Drosophila melanogaster* cells

SO Nature Methods (2004), 1(2), 127-132

CODEN: NMAEA3; ISSN: 1548-7091

AU Wheeler, Douglas B.; Bailey, Steve N.; Guertin, David A.; Carpenter, Anne E.; Higgins, Caitlin O.; Sabatini, David M.

AB RNA interference (RNAi)-mediated loss-of-function screening in *Drosophila melanogaster* tissue culture cells is a powerful method for identifying the genes underlying cell biol. functions and for annotating the fly genome. Here we describe the development of living-cell **microarrays** for screening large collections of RNAi-inducing double-stranded RNAs (dsRNAs) in *Drosophila* cells. The features of the **microarrays** consist of clusters of cells 200 μ m in diameter, each with an RNAi-mediated depletion of a specific gene product. Because of the small size of the features, thousands of distinct dsRNAs can be screened on a single chip. The **microarrays** are suitable for quant. and high-content cellular phenotyping and, in combination screens, for the identification of genetic suppressors, enhancers and synthetic lethal interactions. We used a prototype cell **microarray** with 384 different dsRNAs to identify previously unknown genes that affect cell proliferation and morphol., and, in a combination screen, that regulate dAkt/dPKB phosphorylation in the absence of dPTEN expression.